

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

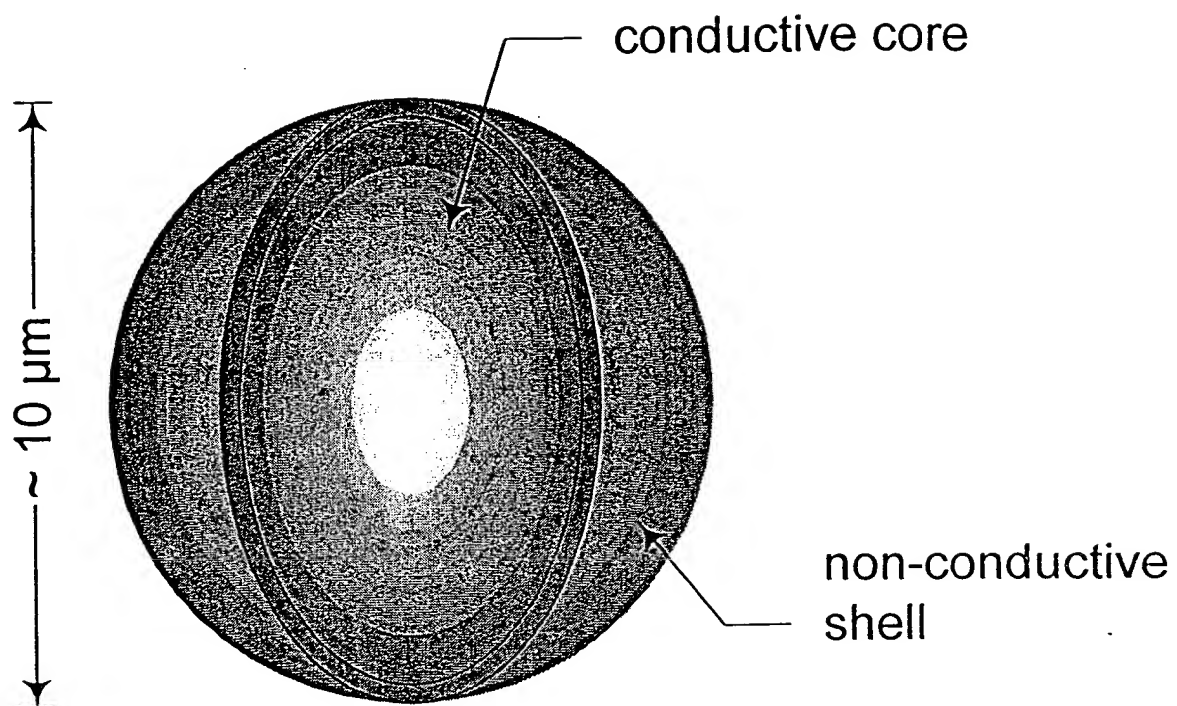
Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

Figure 1



2025-07-24 14:00:00

Figure 2

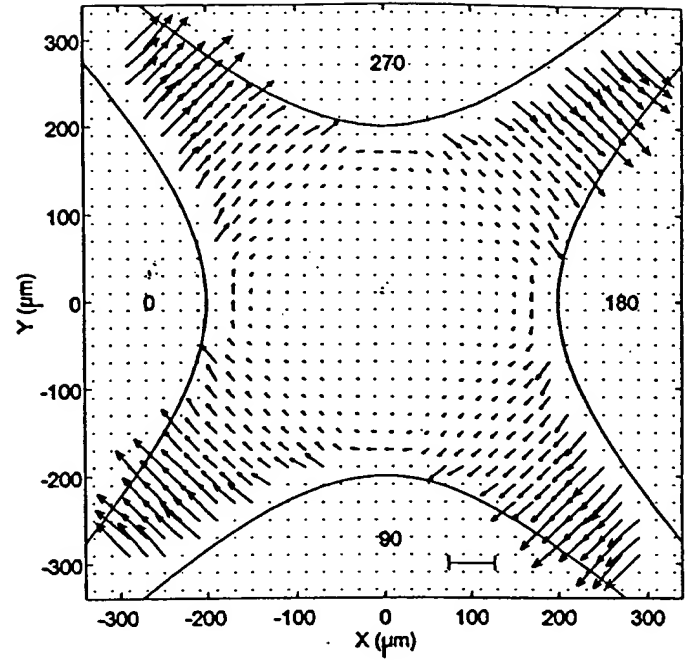
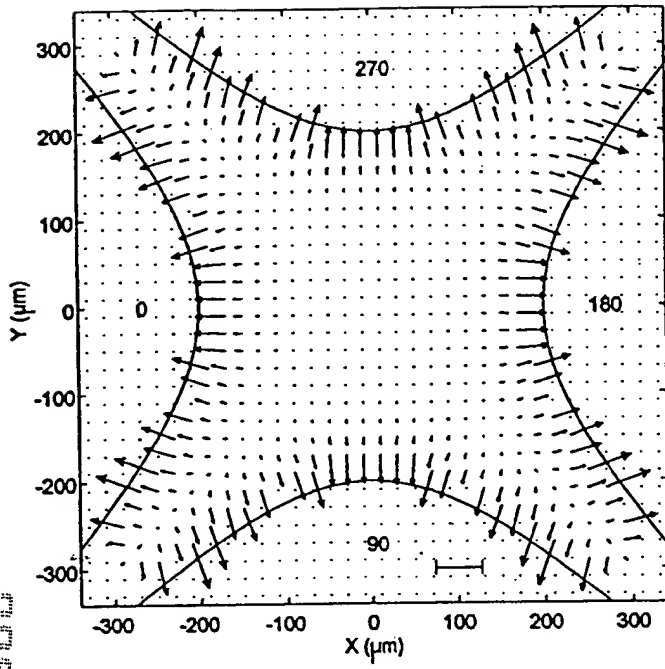


Figure 3

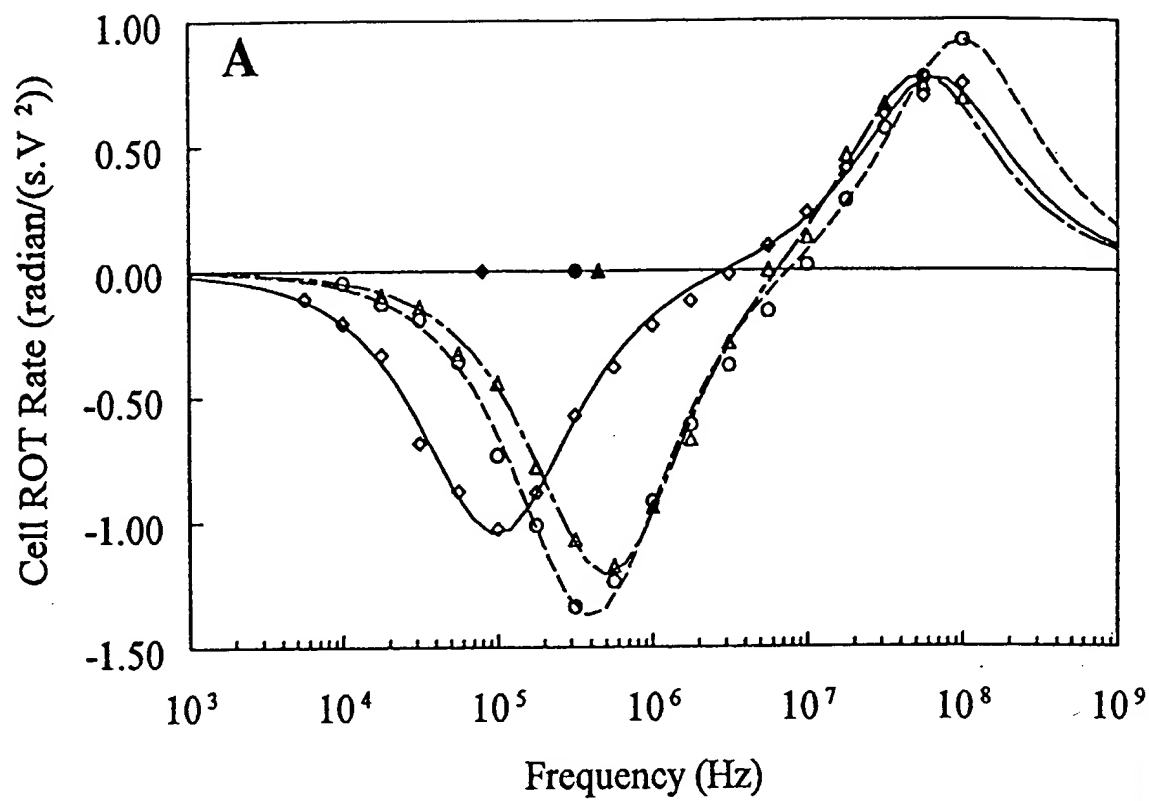


Figure 4

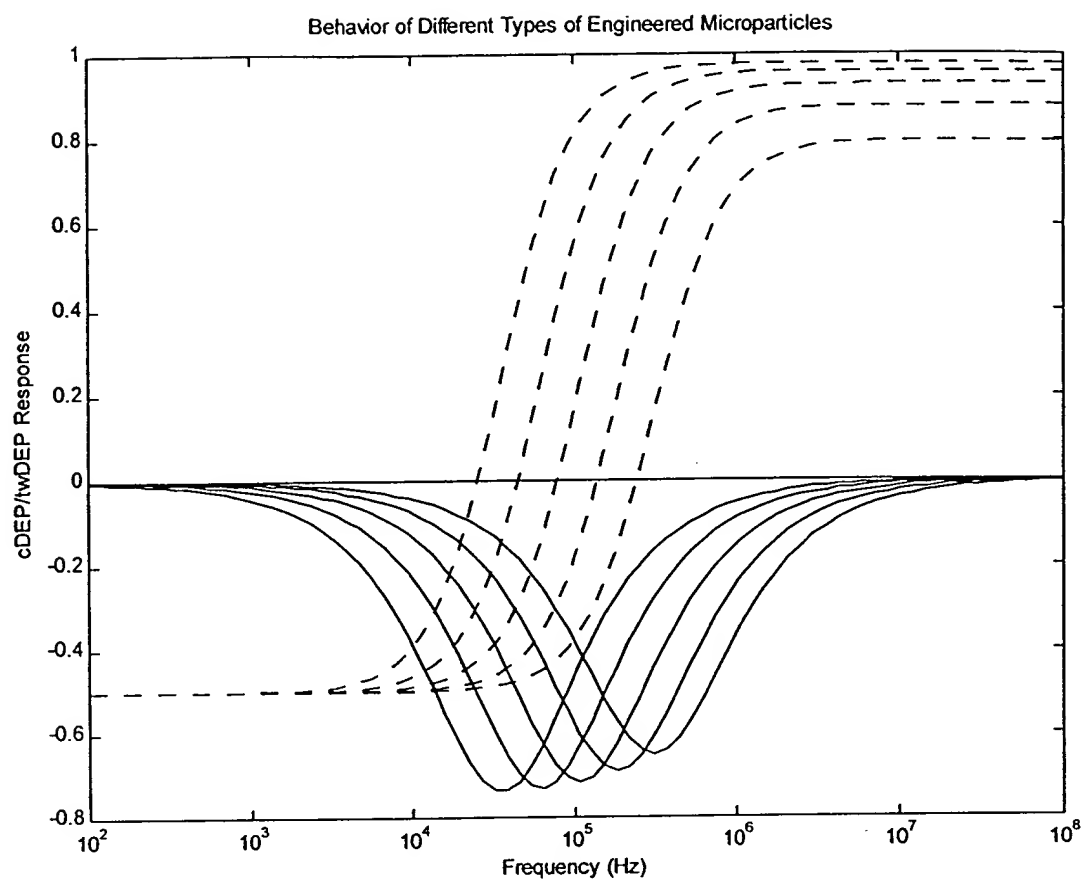


Figure 5

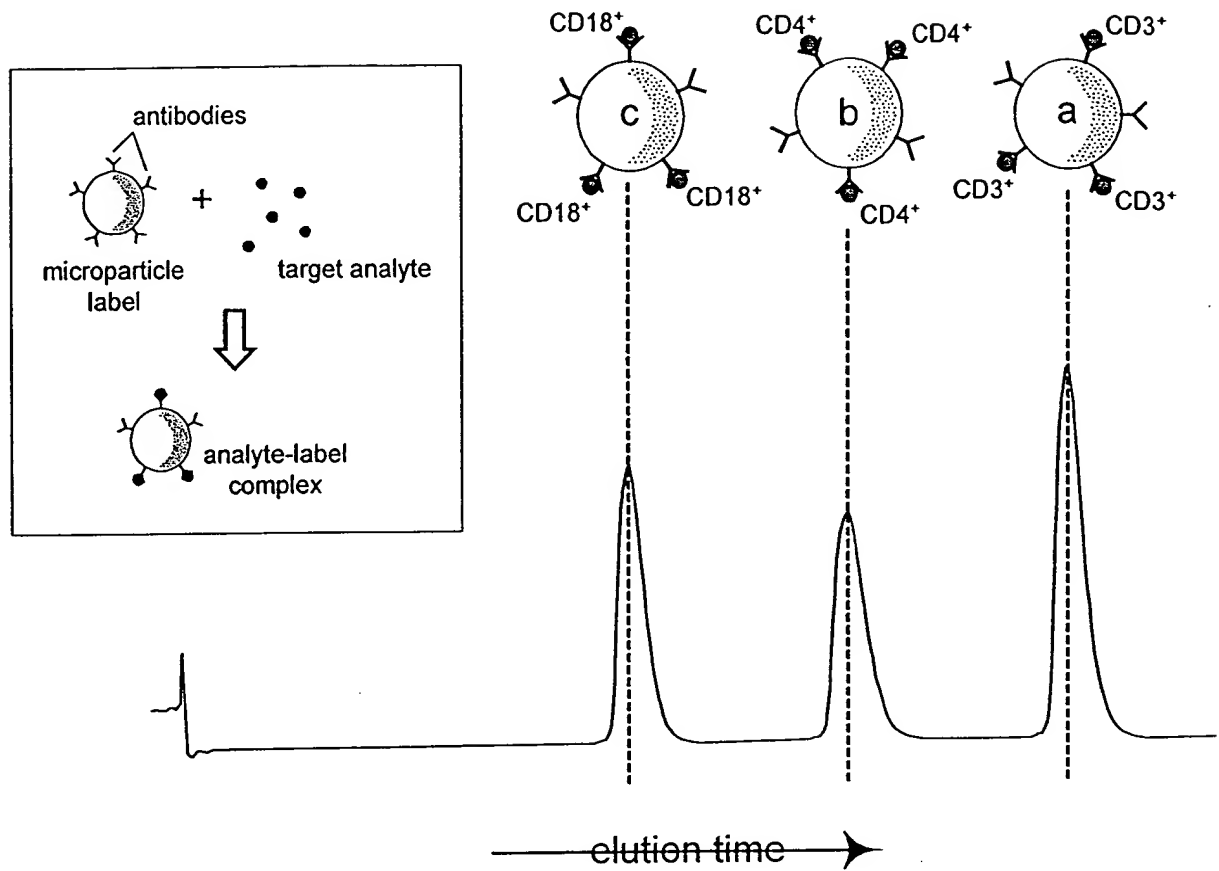


Figure 6

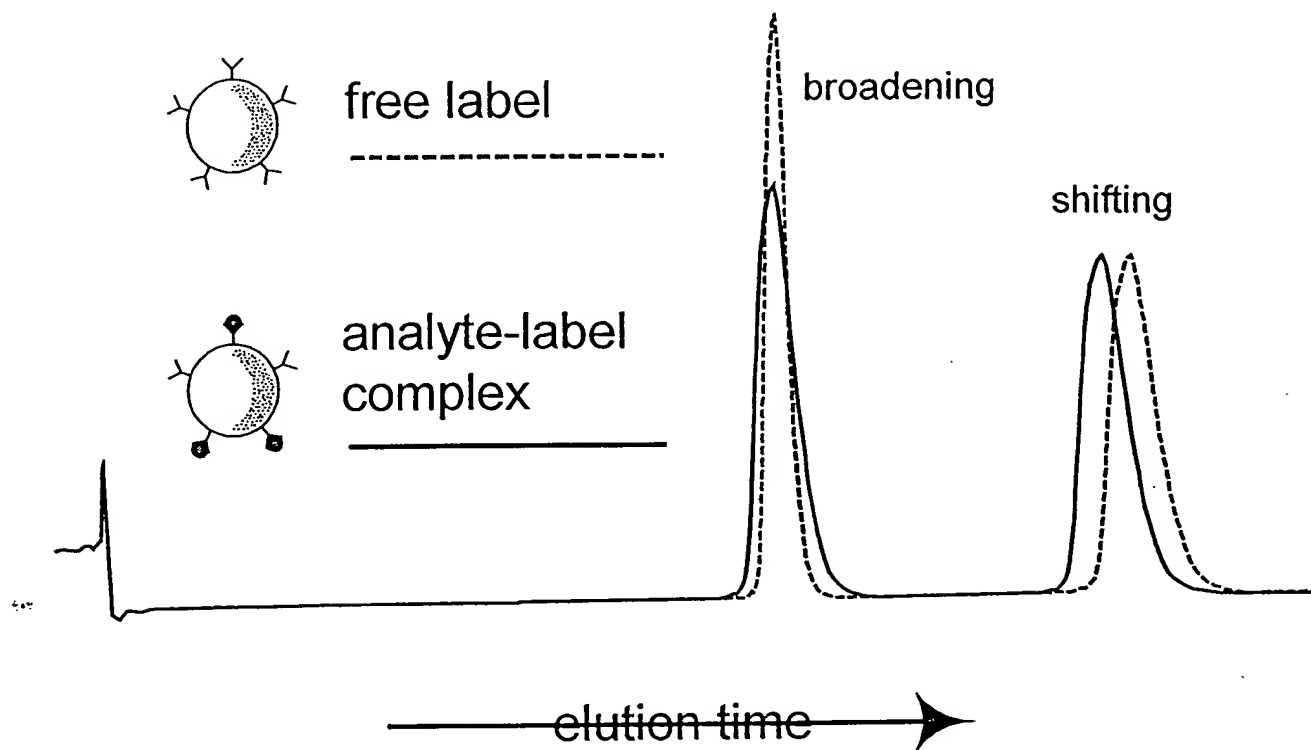


Figure 7

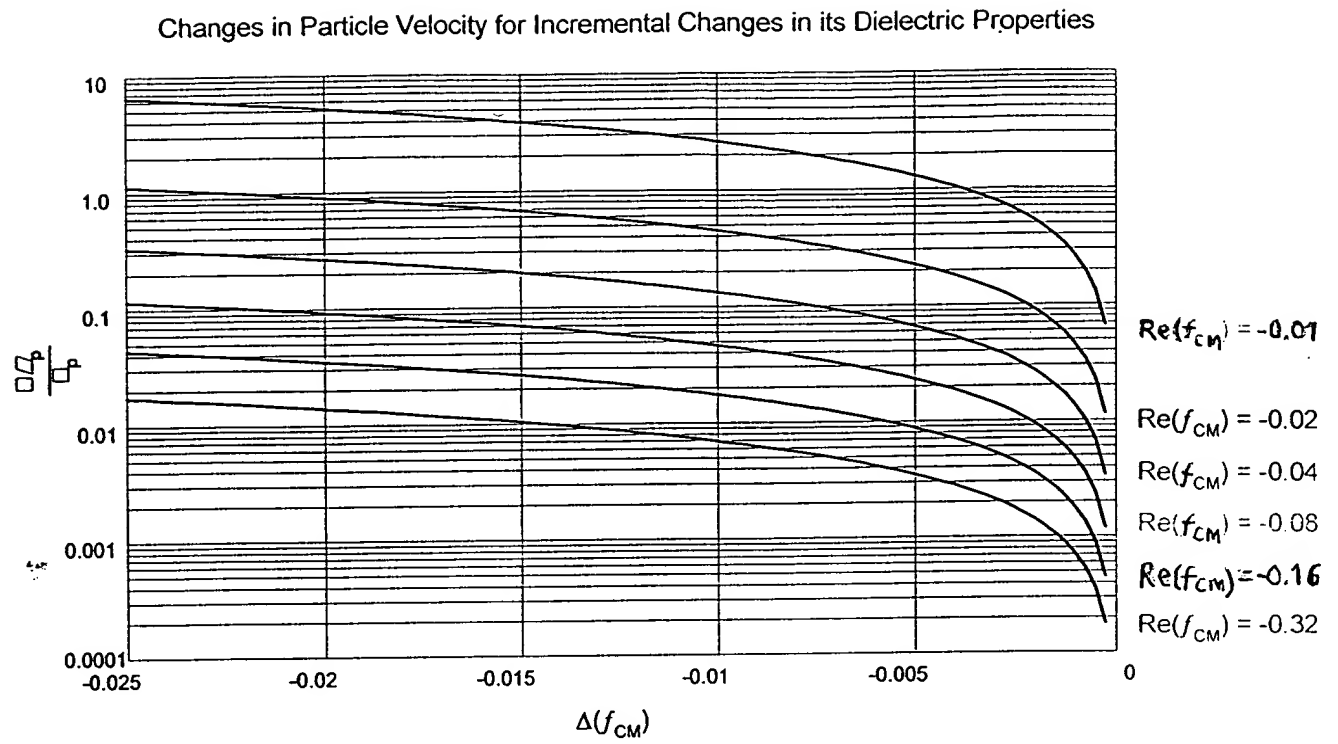
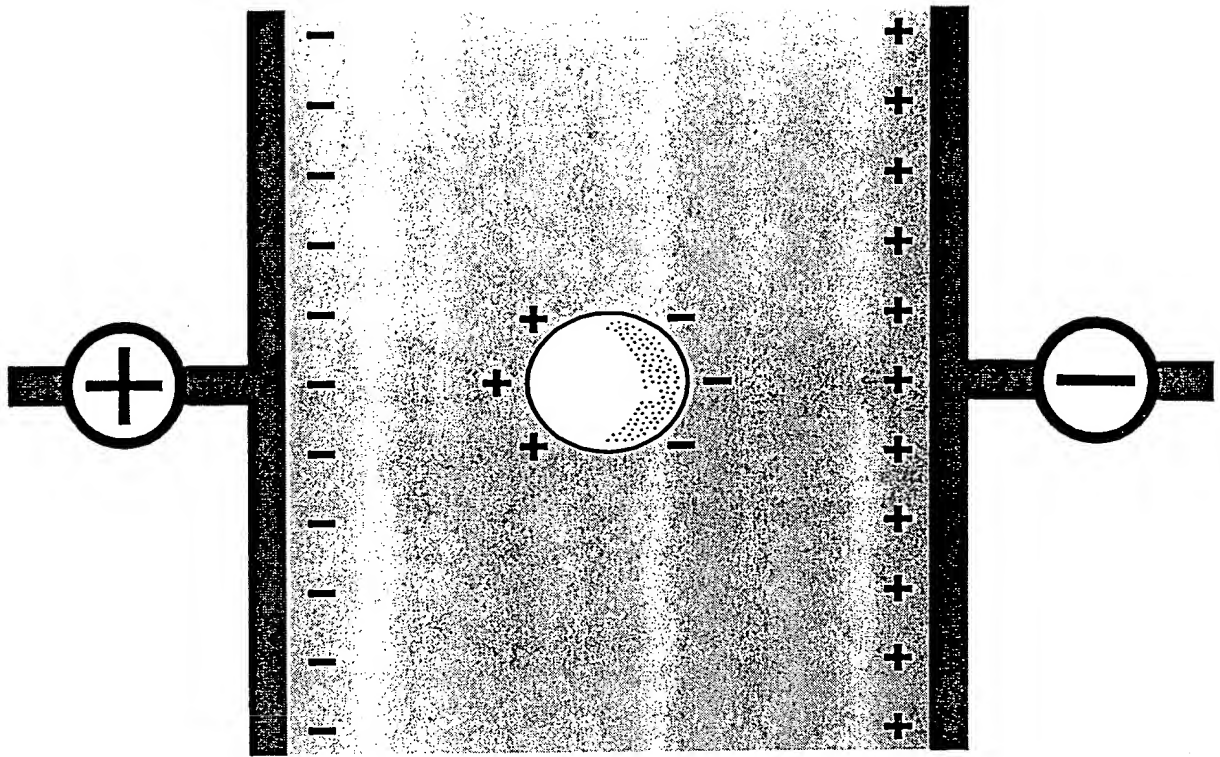


Figure 8



2025-01-14 14:30:00

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

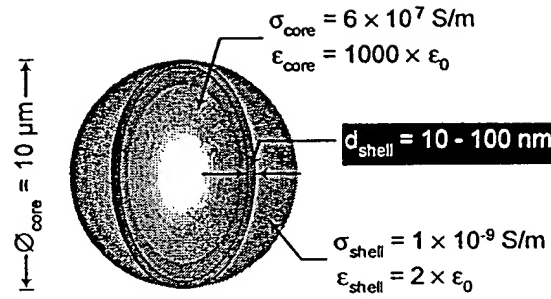


FIG. 9A

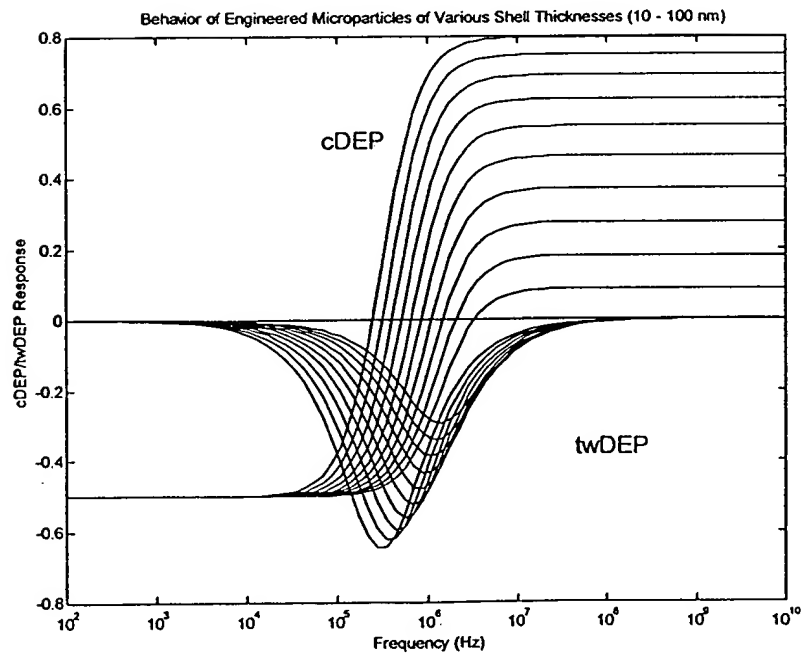


FIG. 9B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

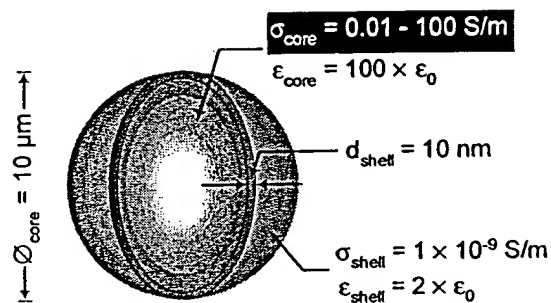


FIG. 10A

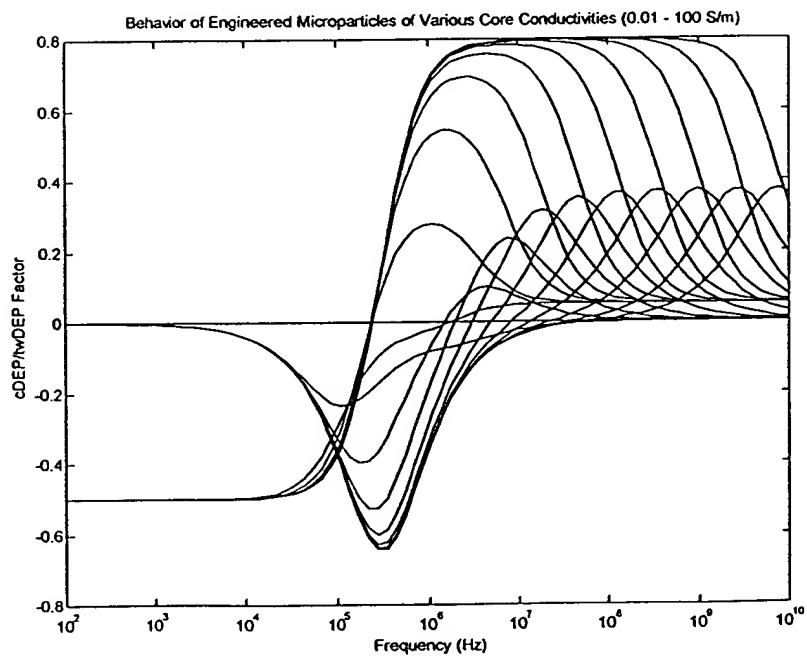


FIG. 10B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

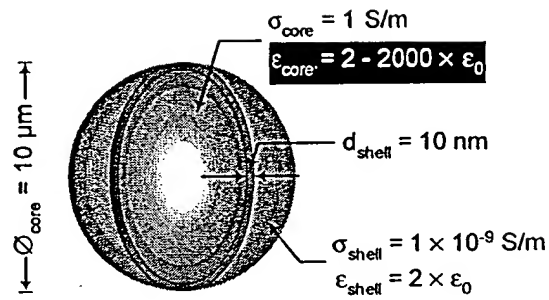


FIG. 11A

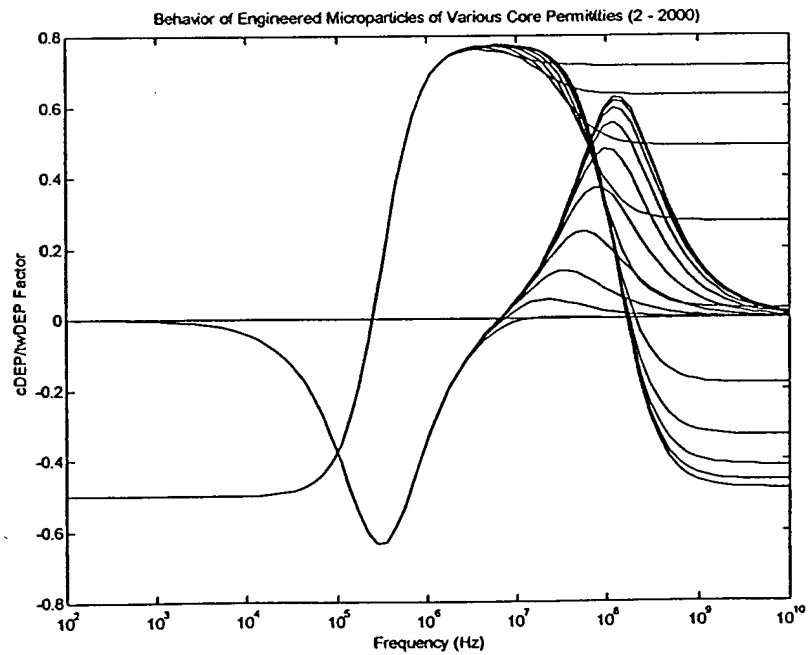


FIG. 11B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

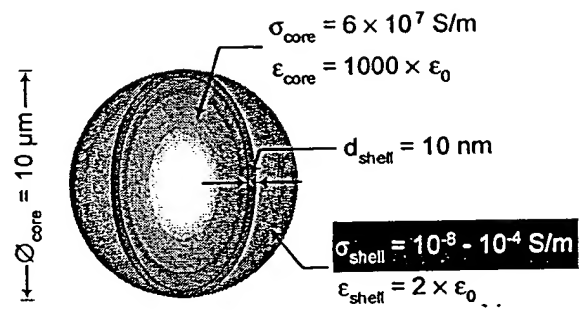


FIG. 12A

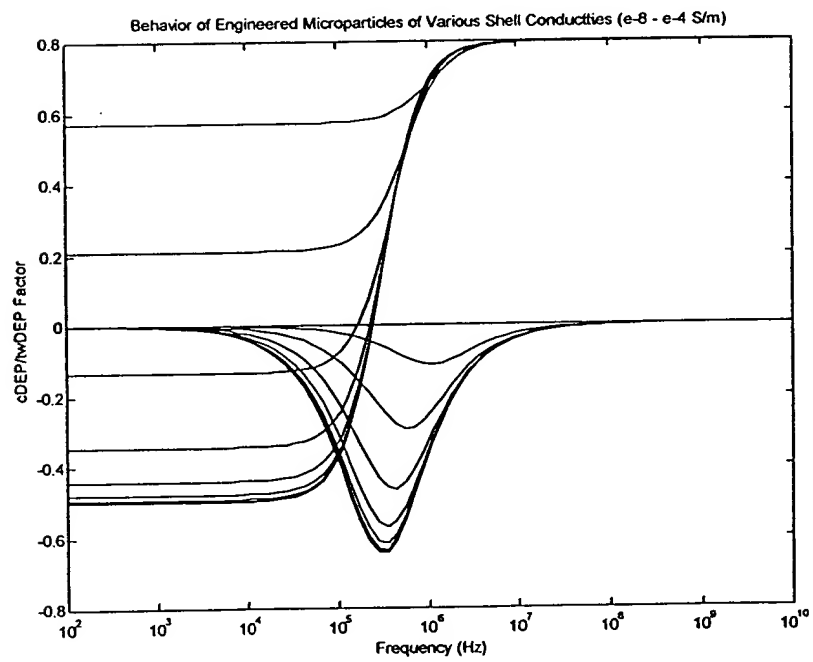


FIG. 12B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

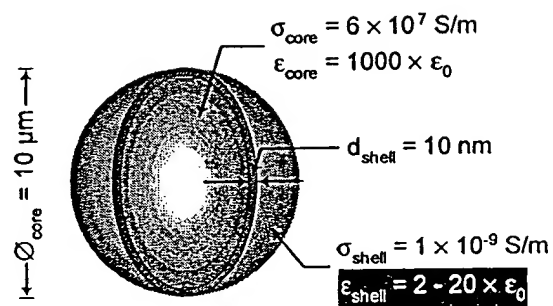


FIG. 13A

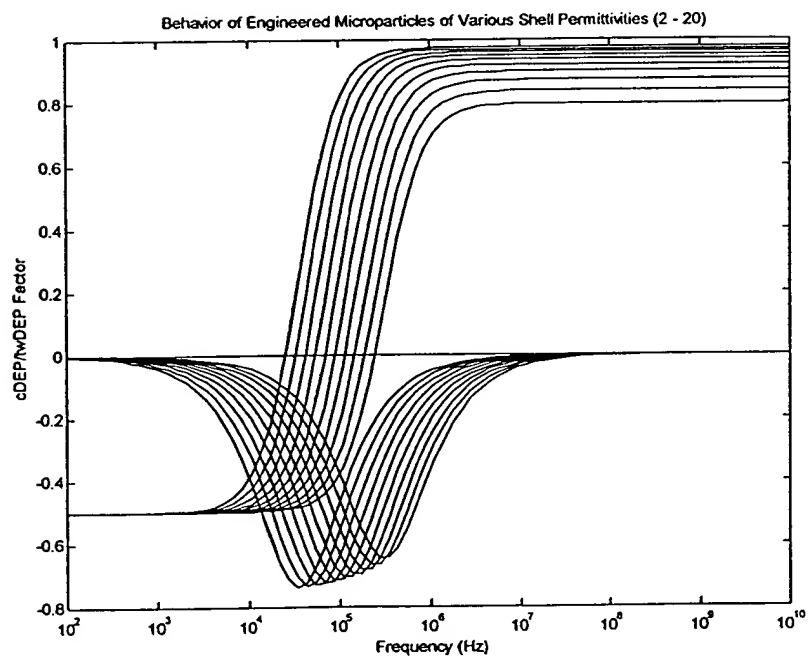


FIG. 13B

$$\sigma_{\text{medium}} = 0.01 - 10 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 78 \times \epsilon_0$$

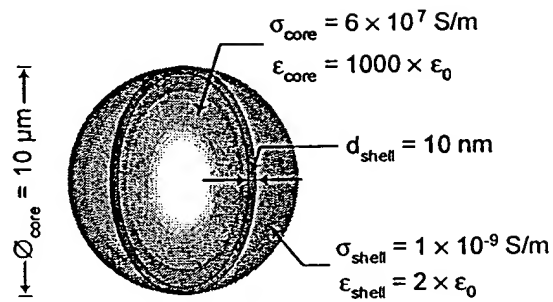


FIG. 14A

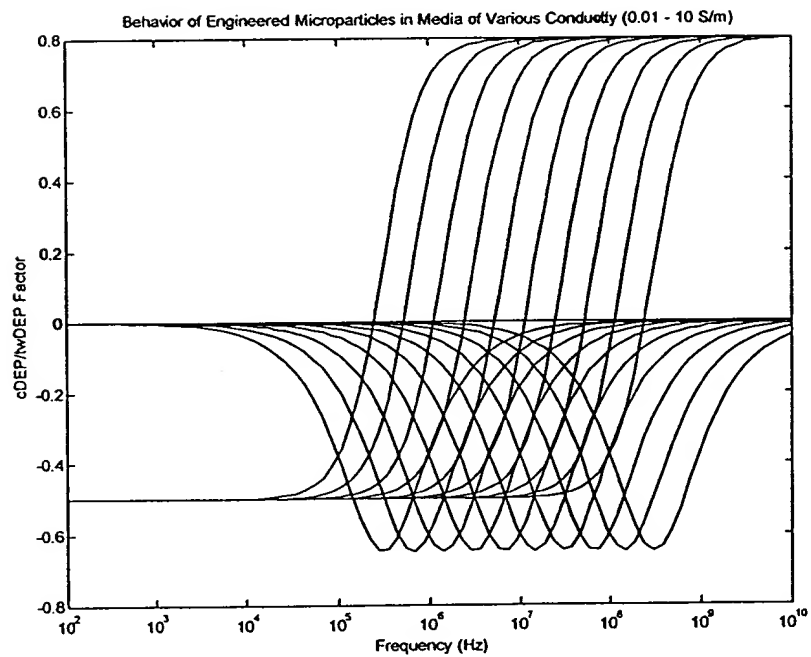


FIG. 14B

$$\sigma_{\text{medium}} = 0.01 \text{ S/m}$$

$$\epsilon_{\text{medium}} = 2 - 200 \times \epsilon_0$$

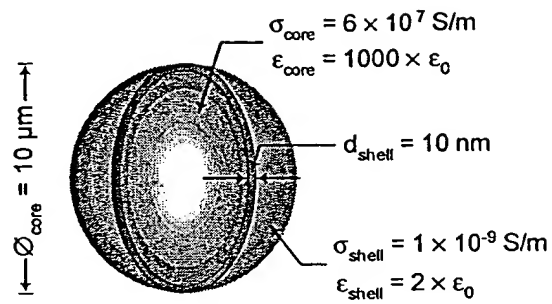


FIG. 15A

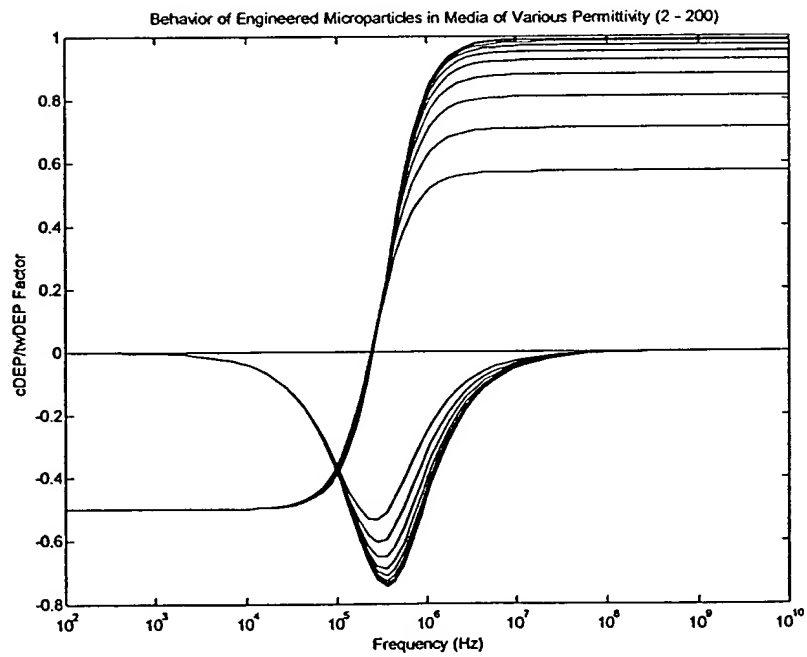
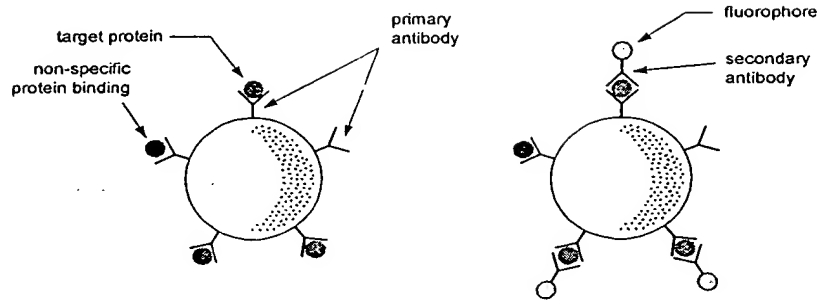


FIG. 15B

1. Protein Detection



2. mRNA Detection

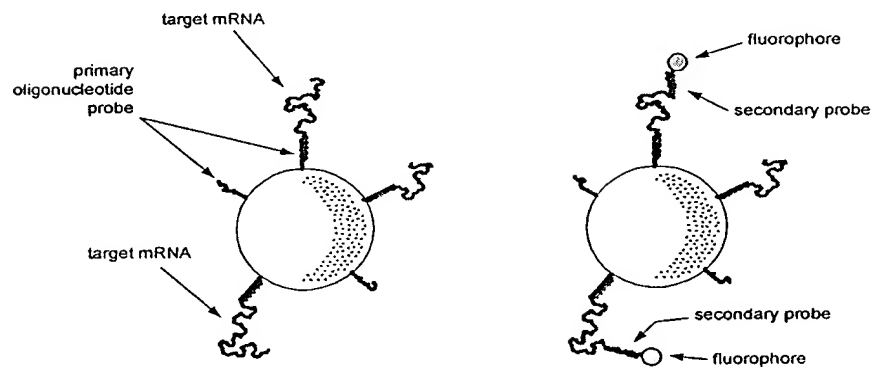


FIG. 16

single layer version

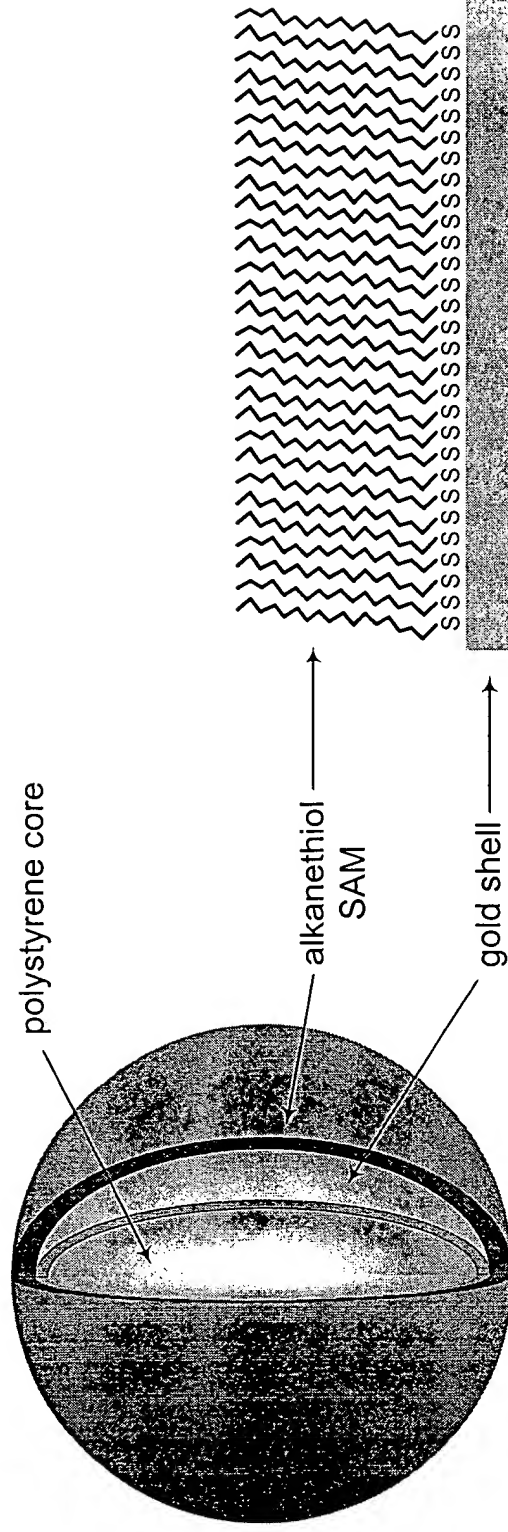


Fig. 17

double layer version

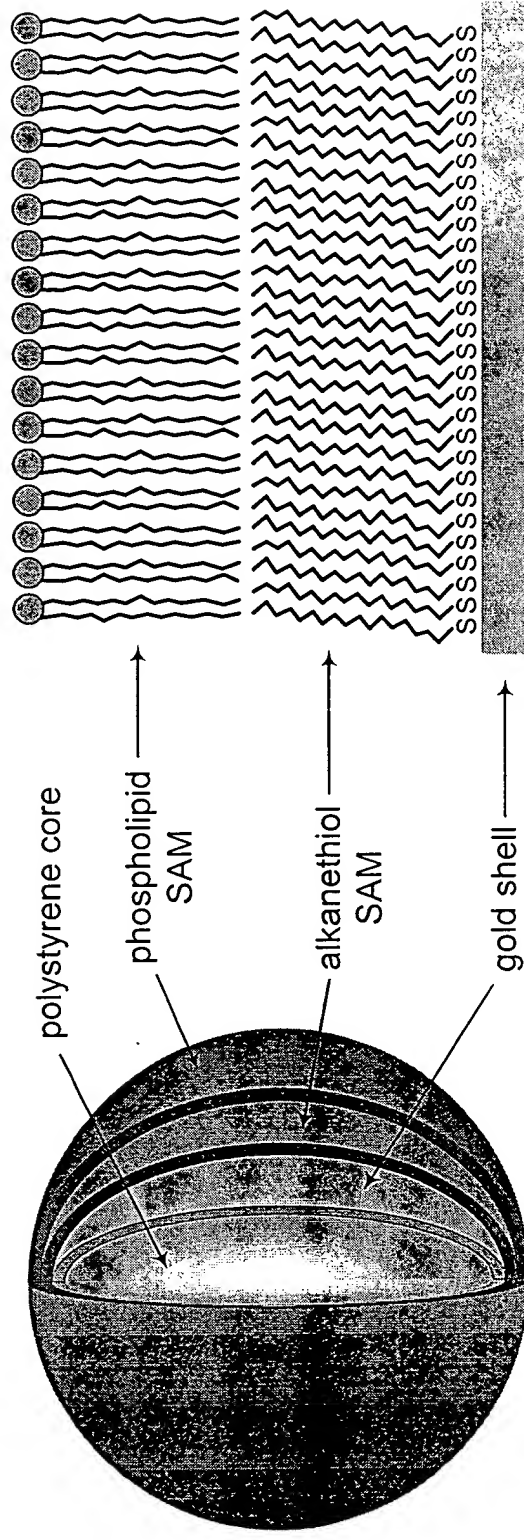


Fig. 18

cross-linked double layer version

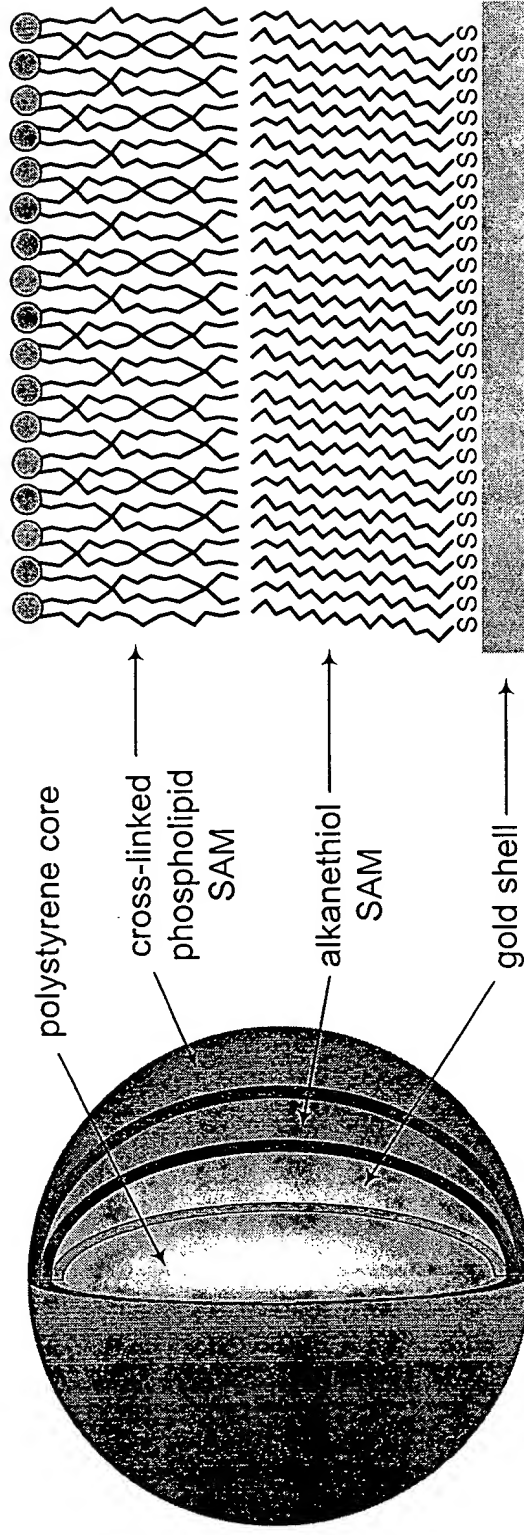


Fig. 19

double layer version with nucleic acid recognition element

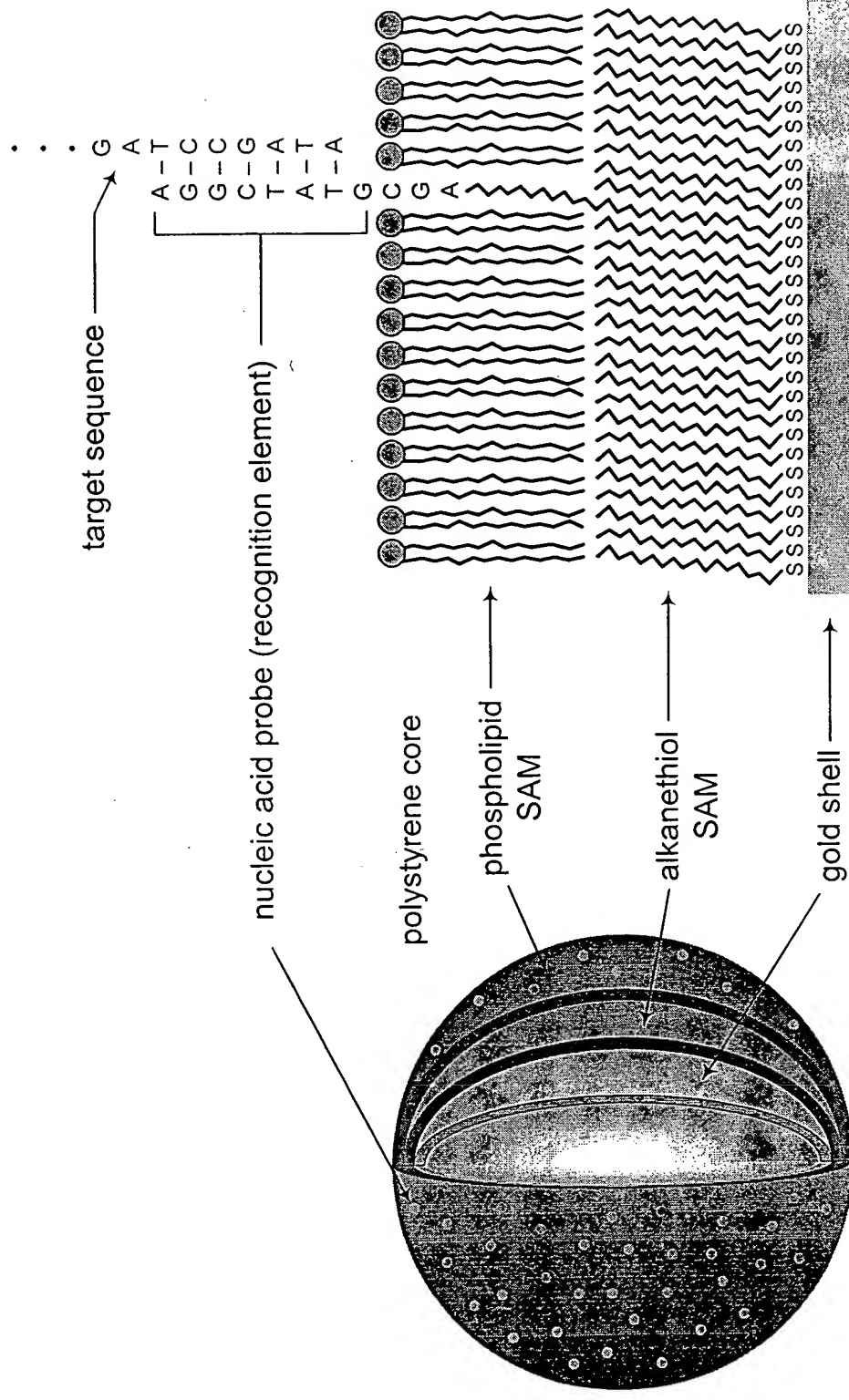


FIG. 20

double layer version with protein recognition element

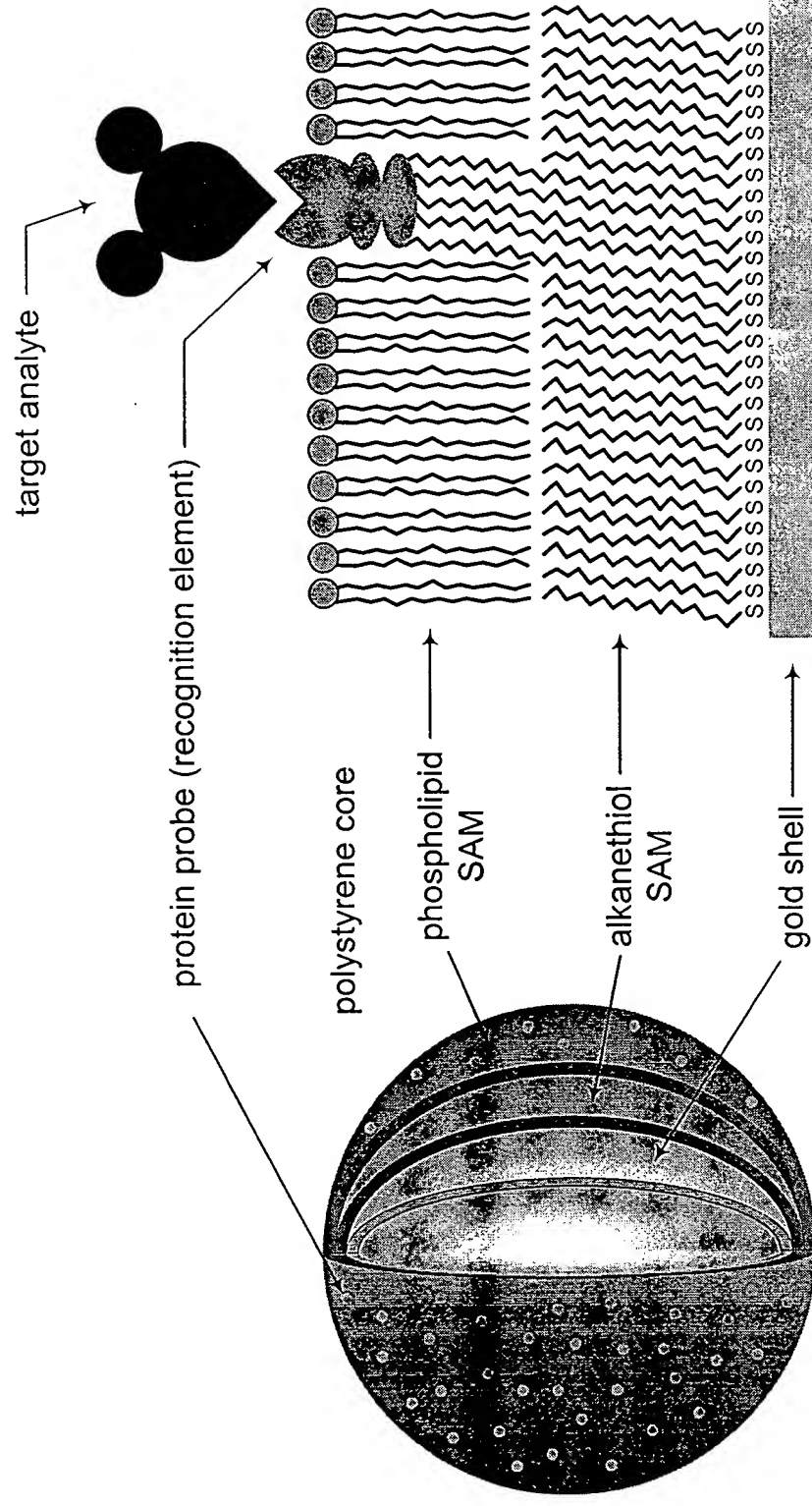


FIG. 21

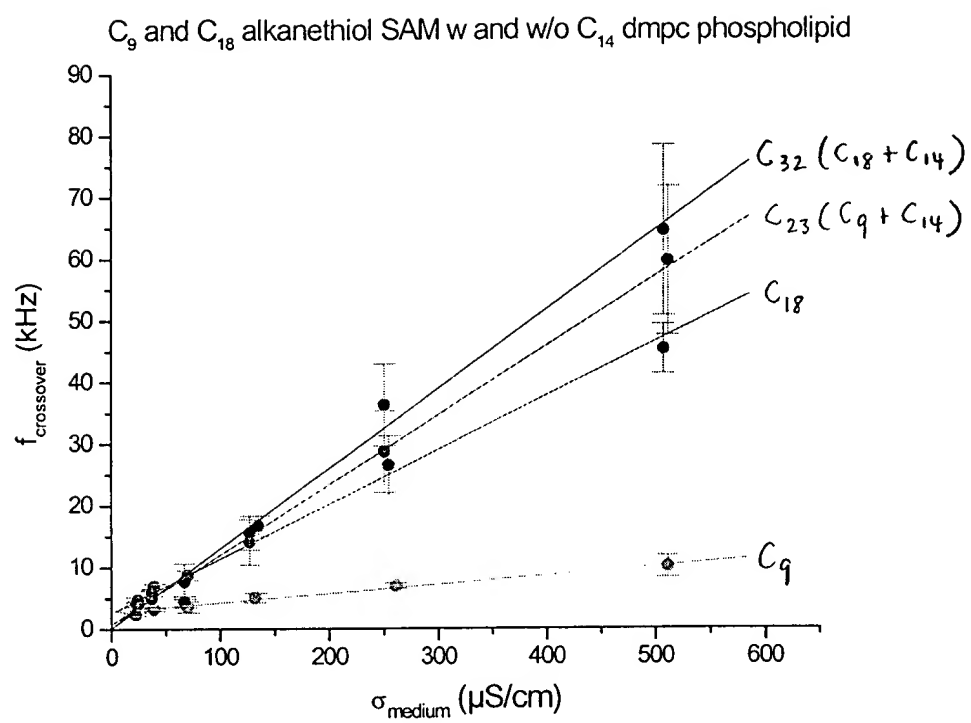


FIG. 22